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MAINE STATE COLLEGE

AGRICULTURAL EXPERIMENT STATION.

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FERTILIZER INSPECTION.



Requests for the publications of the Station should be
addressed to the

AGRICULTURAL EXPERIMENT STATION,

Orono, Maine.

MAINE STATE COLLEGE

AGRICULTURAL EXPERIMENT STATION.

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FERTILIZER INSPECTION.

CHAS. D. WOODS, Director.

J. M. BARTLETT, Chemist in charge of Fertilizer Analysis.

The fertilizer law now in force in the state was enacted in 1893 and amended in 1895 and 1897. The following is the text of the revised law, chapter 256 of the Public Laws of Maine for 1893 :

An Act to regulate the sale and analysis of Commercial Fertilizers.

SECTION 1. Every manufacturer, company or person who shall sell, offer or expose for sale in this state any commercial fertilizer or any material used for fertilizing purposes, the price of which exceeds ten dollars per ton, shall affix to every package of such fertilizer in a conspicuous place on the outside thereof, a plainly printed statement clearly and truly certifying the number of net pounds in the package sold or offered for sale, the name or trade mark under which the article is sold, the name of the manufacturer or shipper, the place of manufacture, the place of business and a chemical analysis stating the percentage of nitrogen, or its equivalent in ammonia in available form, of potash soluble in water, and of phosphoric acid in available form, soluble and reverted as well as the total phosphoric acid.

SECT. 2. Every manufacturer, company or person who shall sell, offer or expose for sale in this state any commercial fertilizer or material used for fertilizing purposes, the price of which exceeds ten dollars per ton, shall for each and every fertilizer bearing a distinguishing name or trade mark, file annually with the director of the Maine Agricultural Experiment Station, between the fifteenth day of November and the fifteenth day of December, a certified copy of the statement, named in section one of this act, said certified copy to be accompanied, when required, by a sealed glass jar or bottle containing at least one pound of the fertilizer to be sold or offered for sale, and the company or person filing said certified copy with its accompanying sample of fertilizer shall thereupon make affidavit that said sample corresponds within reasonable limits to the fertilizer which it represents in the percentage of nitrogen, total and available phosphoric acid, and potash soluble in water which it contains. Such affidavit shall apply to the entire calendar year next succeeding the date upon which said affidavit is made, unless the person or persons making such affidavit shall give notice to the director of the Maine Experiment Station that a change is to

be made during the year in the percentages of the above named ingredients contained in the fertilizer, in which case he shall, before selling or offering for sale such fertilizer, file another certified statement with an accompanying sample of fertilizer and an affidavit as hereinbefore required. The deposit of a sample of fertilizer as herein provided shall be required by said director unless the company, manufacturer or person selling or offering for sale a fertilizer coming within the provisions of this act, shall certify that its composition for the succeeding year is to be the same as given in the last previously certified statement, in which case the requiring of said sample shall be at the discretion of said director.

SECT. 3. The director of the Maine Experiment Station shall analyze, or cause to be analyzed, all the samples of fertilizers which come into his possession under the provisions of section two of this act, and shall publish the results thereof in a bulletin or report on or before the fifteenth of March next succeeding.

SECT. 4. Any manufacturer, importer, agent or seller of any commercial fertilizer, who shall deposit with the director of the Maine Experiment Station a sample or samples of fertilizer under the provisions of section two of this act, shall pay annually to said director an analysis fee as follows: Ten dollars for the phosphoric acid and five dollars each for the nitrogen and potash, contained or said to be contained in the fertilizer, this fee to be assessed on any brand sold in the State, and upon receipt of such fee and of the certified statement named in section two of this act, said director shall issue a certificate of compliance with this act. Whenever the manufacturer or importer of a fertilizer shall have filed the statement made in section two of this act and paid the analysis fee, no agent or seller of said manufacturer, importer or shipper shall be required to file such statement or pay such fee. The analysis fees received by said director shall be paid immediately by him into the treasury of said experiment station.

SECT. 5. Any manufacturer, importer or person who shall sell, offer or expose for sale in this State any commercial fertilizer without complying with the requirements of sections one, two and four of this act, or any fertilizer which contains substantially a smaller percentage of constituents than are certified to be contained, shall, on conviction in a court of competent jurisdiction, be fined one hundred dollars for the first offense, and two hundred dollars for each subsequent offense.

SECT. 6. The director of the Maine Experiment Station shall annually analyze, or cause to be analyzed, at least one sample, to be taken in the manner hereinafter prescribed, of every fertilizer sold or offered for sale under the provisions of this act. Said director is hereby authorized and directed in person or by deputy to take a sample not exceeding two pounds in weight, for said analysis, from any lot or package of fertilizer or any material used for manurial purposes which may be in the possession of any manufacturer, importer, agent or dealer in this State; but said sample shall be drawn in the presence of said party or parties in interest, or their representative, and taken from a parcel or a number of packages which shall not be less than ten per cent. of the whole lot sampled, and shall be thoroughly mixed and then divided into two equal samples and placed in glass vessels and carefully sealed and a label placed on each, stating the name or brand of the fertilizer or material sampled, the name of the party from whose stock the sample was drawn and the time and place of drawing, and said label shall also be signed by the director or his deputy and by the party or parties in interest or their representatives at the drawing and sealing of said samples; one of said duplicate samples shall be retained by the director and the other by the party whose stock was sampled; and the sample or samples retained by the director shall be for comparison with the certified statement named in section two of this act. The result of the analysis of the sample or samples so procured shall be published in a report or bulletin within reasonable time.

SECT. 7. Whenever the director becomes cognizant of the violation of any of the provisions of this act he shall report such violation to the secretary of the board of agriculture, and said secretary shall prosecute the party or parties thus reported; but it shall be the duty of said secretary upon thus ascertaining any violation of this act, to forthwith notify the manufacturer or importer in writing, and give him not less than thirty days thereafter in which to comply with the requirements of this act, but there shall be no prosecution in relation to the quality of any fertilizer or fertilizing material if the same shall be found substantially equivalent to the certified statement named in section two of this act.

SECT. 8. All acts and parts of acts inconsistent with this act are hereby repealed.

SECT. 9. This act shall take effect when approved.

Approved March 14.

INSPECTION OF FERTILIZERS, 1897.

The analyses which appear here are those made from manufacturer's samples, which are deposited under affidavit that they are reasonably near in composition to the corresponding brands found in the market.

The figures which are given as the percentages of valuable ingredients guaranteed by the manufacturers are the minimum percentages of the guarantee. If, for instance, the guarantee is 2 to 3 per cent. of nitrogen, it is evident that the dealer can not be held to have agreed to furnish more than 2 per cent., and so this percentage is taken as the actual guarantee. The figures under the head of "found" are those showing the actual composition of the samples deposited.

It will be seen that no estimated commercial valuation has been given to the various brands of goods here represented. The trade values for 1897 have not yet been agreed upon, but if any one wishes to calculate the valuation he can do so by using the prices adopted for 1896 by the experiment stations of Connecticut, Massachusetts, Rhode Island and New Jersey. It represents the retail prices at which these ingredients could then be purchased in the various forms mentioned. On account of the greater distance from the large markets the prices for Maine would probably be a little higher than those quoted.

TRADE VALUES OF FERTILIZING INGREDIENTS FOR 1896.

	Cents per lb.
Nitrogen in ammonia salts.....	15
nitrates.....	13½
Organic nitrogen in dry and fine ground fish, meat and blood	
and in mixed fertilizers.....	14
in cotton seed and linseed meal.....	12
in fine bone and tankage.....	13½
in fine-medium bone and tankage.....	12
in medium bone and tankage.....	9
in coarser bone and tankage.....	3
Phosphoric acid, water-soluble.....	5½
citrate-soluble.....	5
of dry, fine ground fish, bone and tankage	5
of fine-medium bone and tankage.....	4
of medium bone and tankage.....	2½
of coarse bone and tankage.....	2

Phosphoric acid, of fine ground fish, cotton seed meal, castor pomace and wood ashes.....	4½
of mixed fertilizers, insoluble in ammonium citrate.....	2
Potash as high-grade sulphate and in forms free from muriate (or chlorides)	5
as muriate.....	4½

The commercial valuation will be accurate enough as a means of comparison if the following rule is adopted :

Multiply 2.8 by the percentage of nitrogen.

Multiply 1.1 by the percentage of available phosphoric acid.

Multiply 0.4 by the percentage of insoluble phosphoric acid.

Multiply 1.0 by the percentage of potash.

The sum of these four products will be the commercial valuation per ton on the basis taken.

Illustration. The table of analyses shows a certain fertilizer to have the following composition: Nitrogen 2.00% ; Available phosphoric acid 8.50 %; Insoluble phosphoric acid, 3.50 %; Potash 3.25 %. The valuation in this case will be computed thus :

Nitrogen,	2.8×2.00,	5.60
Available phosphoric acid,	1.1×8.50,	9.35
Insoluble phosphoric acid,	0.4×3.50,	1.40
Potash,	1.0×3.25,	3.25
Valuation per ton,		<hr/> \$19.60

Since this rule assumes all the nitrogen to be organic and all the potash to be in the form of the sulphate, it is evident that the valuations thus calculated must not be taken as the only guide in the choice of a fertilizer. At best the valuations can only serve to show the approximate cost of the several ingredients contained in the fertilizer in question. In every case the farmer should consider the *needs* of his soil before he begins to consider the cost. In many instances a little careful experimenting will show him that materials containing either nitrogen, potash or phosphoric acid alone will serve his purpose as fully as a "complete fertilizer," in which he must pay for all three constituents, whether needed or not.

DESCRIPTIVE LIST OF MANUFACTURERS' SAMPLES, 1897.

Station Number.	Brand.	Manufacturer or Dealer.	Place of Business.
1594	Americus Corn Phosphate.....	Williams & Clark Fert. Co.	Cartaret, N.J.
1237	Americus Phosphate	" " " "	" "
1217	Bay State Fertilizer.....	Clark's Cove Fert. Co....	Boston, Mass.
1218	" " " G. G.	" " " "	" "
1219	" " " Seeding Down	" " " "	" "
1582	Blanchard's Fish, Bone & Potash.	Hiram Blanchard	Eastport, Me.
1581	" Fish Scrap, No. 2....	" "	" "
1252	Bowker's Amm. Dissolved Bone .	Bowker Fertilizer Co....	Boston, Mass.
1251	" Farm & Garden Phos...	" " " "	" "
1257	" Fresh Ground Bone.....	" " " "	" "
1579	" High Grade Fertilizer ..	" " " "	" "
1248	" Hill and Drill Phosphate	" " " "	" "
1249	" Potato & Veg. Manure..	" " " "	" "
1389	" Potato & Veg. Phosphate	" " " "	" "
1390	" 6% Potato Fertilizer....	" " " "	" "
1250	" Sq. Brand Bone & Potash	" " " "	" "
1247	" Sure Crop Phosphate ...	" " " "	" "
1588	" Ten Per Cent. Manure..	" " " "	" "
1268	Bradley's Complete Manure for Potatoes and Vegetables.....	Bradley Fertilizer Co....	" "
1282	Bradley's Corn Phosphate.....	" " " "	" "
1549	" English Lawn Fertilizer	" " " "	" "
1266	" Eureka Fertilizer.....	" " " "	" "
1269	" Potato Fertilizer.....	" " " "	" "
1267	" Potato Manure.....	" " " "	" "
1265	" X. L. Phosphate.....	" " " "	" "
1607	Cleveland Fertilizer.....	Cleveland Dryer Co.....	" "

ANALYSES OF MANUFACTURERS' SAMPLES, 1897.

Station Number.	Nitrogen.		Phosphoric Acid.				Potash.		Station Number.
	Found.	Guaranteed.	Available Found.	Available Guaranteed.	Total Found.	Total Guaranteed.	Found.	Guaranteed.	
1594	2.27	2.06	9.09	9.00	11.65	10.00	2.03	1.50	1594
1237	2.80	2.47	9.50	9.00	10.29	10.00	2.63	2.00	1237
1217	2.72	2.47	9.67	9.00	10.63	10.00	2.65	2.00	1217
1218	2.86	1.85	9.72	8.50	11.53	10.00	2.62	2.00	1218
1219	2.33	1.03	9.73	8.00	11.62	10.00	2.59	2.00	1219
1582	2.47	2.50	1.97	.....	4.61	4.50	4.59	5.00	1582
1581	4.52	4.50	3.27	.....	4.34	4.00	.....	.....	1581
1252	1.88	1.50	7.83	8.00	9.88	10.00	2.17	2.00	1252
1251	1.86	1.50	8.28	8.00	10.07	10.00	2.21	2.00	1251
1257	3.10	2.25	.....	.....	17.49	18.00	.....	.....	1257
1579	2.76	2.25	10.08	8.00	12.00	10.00	4.68	4.00	1579
1248	2.60	2.25	9.23	9.00	12.31	12.00	2.52	2.00	1248
1249	2.54	2.25	6.33	8.00	10.64	10.00	4.42	4.00	1249
1389	1.77	1.50	7.33	8.00	12.73	10.00	2.34	2.00	1389
1390	1.01	.75	7.85	7.00	11.67	10.00	6.38	6.00	1390
1250	1.79	1.50	6.40	6.00	13.59	12.00	2.21	2.00	1250
1247	1.02	.75	7.84	8.00	11.91	10.00	1.16	1.00	1247
1588	1.15	.75	6.47	6.00	10.08	8.00	10.98	10.00	1588
1268	4.10	3.73	9.44	8.00	11.56	9.00	7.16	6.00	1268
1282	2.59	2.06	10.57	9.00	11.39	10.00	1.68	1.50	1282
1549	5.35	4.95	7.04	5.00	8.32	6.00	3.61	2.50	1549
1266	2.00	1.65	7.93	5.00	15.30	10.00	1.95	2.00	1266
1269	2.11	2.06	10.67	9.00	11.60	11.00	3.07	3.25	1269
1267	2.61	2.50	7.31	6.00	9.54	8.00	5.43	5.00	1267
1265	2.70	2.50	11.13	9.00	12.61	11.00	2.27	2.00	1265
1607	1.48	1.03	8.87	8.00	11.22	9.00	2.42	2.00	1607

DESCRIPTIVE LIST OF MANUFACTURERS' SAMPLES, 1897.

Station Number.	Brand.	Manufacturer or Dealer.	Place of Business.
1263	Cleveland Superphosphate	Cleveland Dryer Co.....	Boston, Mass.
1264	" Potato Phosphate.....	" " "	" "
1262	" Seeding Down Fertilizer	" " "	" "
1272	Crocker's Amm. Corn Phosphate.	Crocker Fert. & Chem.Co.	Buffalo, N. Y.
1271	" Amm. Potato,Hop& Tob.	" " " " "	" "
1270	" New Rival Amm. Super.	" " " "	" "
1273	" Superior Rye & Oats Fert.	" " " "	" "
1602	Cumberland Guano	Cumberl'd Bone-Phos. Co.	Portland, Me.
1394	" Potato Fertilizer	" " " "	" "
1395	" Seeding Down Fert ..	" " " "	" "
1393	" Superphosphate.....	" " " "	" "
1600	Defiance Phosphate	Clark's Cove Fertilizer Co.	Boston, Mass.
1614	Dirigo Fertilizer	Sagadahoc Fertilizer Co..	Bowdoinham.
1613	E. F. Coe's Columbian Corn Fert.	E. Frank Coe Co.....	New York, NY
1401	" " Columbian Phosphate	" " "	" " "
1609	" " " Potato Fert	" " "	" " "
1610	" " Excelsior " "	" " "	" " "
1611	" " Gold Brand Excelsior Guano	" " "	" " "
1617	" " Grass and Grain Fert.	" " "	" " "
1399	" " High Grade Amm. Superphosphate	" " "	" " "
1606	" " Prize Brand Grass and Grain Fertilizer	" " "	" " "
1612	" " Seeding Down & Top Dressing Fertilizer.	" " "	" " "
1405	" " Special Potato Fert...	" " "	" " "
1400	" " Standard Grade Amm. Superphosphate ...	" " "	" " "
1618	Farmer's Friend	Nash Manufacturing Co..	Orrington, Me

ANALYSES OF MANUFACTURERS' SAMPLES, 1897.

Station Number.	Nitrogen.		Phosphoric Acid.				Potash.		Station Number.
	Found.	Guaranteed.	Available Found.	Available Guaranteed.	Total Found.	Total Guaranteed.	Found.	Guaranteed.	
1263	2.39	2.05	9.89	9.00	11.81	11.00	2.71	2.00	1263
1264	2.16	2.05	10.47	8.00	11.44	10.00	3.21	3.00	1264
1262	1.65	1.65	9.14	5.00	11.53	10.00	2.23	2.00	1262
1272	1.90	2.05	10.53	10.00	11.67	11.00	1.72	1.68	1272
1271	2.04	2.05	10.34	10.00	11.41	11.00	3.65	3.25	1271
1270	1.00	1.23	11.07	10.00	12.56	11.00	1.57	1.68	1270
1273	.86	.82	8.43	8.00	10.26	9.00	1.76	2.00	1273
1602	1.30	1.03	9.35	8.00	10.99	10.00	2.21	2.00	1602
1394	2.12	2.06	8.89	9.00	11.05	11.00	3.97	3.00	1394
1395	1.10	1.23	7.80	8.00	9.91	12.00	2.93	2.00	1395
1393	2.08	2.06	9.32	8.00	11.22	10.00	3.56	2.00	1393
1600	1.43	.82	9.18	7.00	10.79	9.00	2.10	1.00	1600
1614	2.67	2.00	6.51	3.00	9.47	10.00	5.14	4.50	1614
1613	1.59	1.20	10.40	9.00	12.73	11.00	1.85	1.85	1613
1401	1.22	1.20	8.68	9.00	12.95	11.00	1.82	1.85	1401
1609	1.53	1.20	9.68	9.00	12.22	11.00	2.20	1.85	1609
1610	2.65	2.50	7.52	8.00	8.65	9.00	12.67	8.00	1610
1611	2.57	2.50	8.67	8.00	9.48	9.00	7.63	6.00	1611
1617	2.83	.80	10.84	9.00	14.47	10.00	1.21	1.35	1617
1399	2.01	2.00	9.17	9.00	12.56	11.00	1.71	1.85	1399
1606	1.76	.50	10.74	10.50	13.57	12.00	1.45	1.25	1606
1612	.....	.....	10.97	12.00	14.14	14.00	3.74	2.75	1612
1405	1.95	1.65	9.25	9.00	13.45	11.00	4.58	3.50	1405
1400	1.73	1.75	8.98	8.00	12.87	9.00	1.00	1.35	1400
1618	4.15	2.50	2.46	8.50	9.27	.....	4.05	4.50	1618

DESCRIPTIVE LIST OF MANUFACTURERS' SAMPLES, 1897.

Station Number.	Brand.	Manufacturer or Dealer.	Place of Business.
1584	Farmers' Friend	Dwight H. Foster.....	Syracuse, N.Y.
1276	Farrar's Superphosphate.....	F. S. Farrar & Co.....	Bangor, Me.
1277	" Potato Manure.....	" " "	" "
1605	Grass and Grain Fertilizer	Pacific Guano Co.....	Boston, Mass.
	Gloucester Fish and Potash	Bowker Fertilizer Co....	" "
1233	Great Eastern Corn Fertilizer....	Great Eastern Fert. Co...	Rutland, Vt.
1578	" " Dissolved Bone Fert.	" " " " ..	" "
1230	" " General Fertilizer ...	" " " " ..	" "
1231	" " Grass & Oats "	" " " " ..	" "
1232	" " Potato Manure	" " " " ..	" "
1216	Great Planet.....	Clark's Cove Fertilizer Co.	Boston, Mass.
1601	Hawkeye Fertilizer.....	Cumb'land Bone-Phos. Co	Portland, Me.
1583	High Grade Farmer's Friend.....	Dwight H. Foster.....	Syracuse, N.Y.
1238	" " Special.....	Williams & Clark Fert. Co.	Cartaret, N.J.
1215	King Philip Guano.....	Clark's Cove Fertilizer Co.	Boston, Mass.
1592	Mohawk Fertilizer.....	The Quinipiac Co.....	" "
1234	Nobsque Guano.....	Pacific Guano Co.....	" "
1548	Original Coe's Superphosphate...	Bradley Fertilizer Co....	" "
1597	Otis Potato Fertilizer	Samuel G. Otis.....	Hallowell, Me.
1577	" Seeding Down Fertilizer....	" " "	" "
1620	" Superphosphate	" " "	" "
1566	Packer's Union Animal Corn Fert.	Packer's Union Fert. Co..	New York, N.Y.
1567	" " Potato Manure ...	" " " " ..	" " "
1608	Pioneer Fertilizer.....	Cleveland Dryer Co.....	Boston, Mass.
1595	Potato and Cabbage Manure	Williams & Clark Fert. Co.	Cartaret, N.J.
1596	Prolific Crop Producer.....	" " " " ..	" "
1409	Pure Bone Meal.....	Nash Manufacturing Co..	Orrington, Me

ANALYSES OF MANUFACTURERS' SAMPLES, 1897.

Station Number.	Nitrogen.		Phosphoric Acid.				Potash.		Station Number.
	Found.	Guaranteed.	Available Found.	Available Guaranteed.	Total Found.	Total Guaranteed.	Found.	Guaranteed.	
1584	2.33	2.00	9.30	9.00	10.63	10.00	2.18	2.00	1584
1276	2.56	2.06	11.50	9.00	15.75	12.00	1.63	2.00	1276
1277	2.33	2.06	10.22	9.00	16.21	12.00	3.32	3.00	1277
1605	1.82	.82	9.41	7.00	11.09	8.00	2.39	1.08	1605
	.....	.75	.....	6.00	.....	9.00	.....	1.00	
1233	3.06	2.88	9.20	8.00	9.94	8.00	3.43	2.00	1233
1578	.....	.....	15.13	14.00	16.49	14.00	.....	.....	1578
1230	1.10	.82	9.94	8.00	12.20	8.00	4.72	4.00	1230
1231	.....	.....	10.99	11.00	15.07	11.00	2.15	2.00	1231
1232	2.35	2.06	10.04	8.00	10.72	8.00	5.71	4.00	1232
1216	.....	3.30	.....	8.00	.....	9.00	.....	7.00	1216
1601	1.70	.82	8.87	7.00	10.77	9.00	2.08	1.00	1601
1583	3.21	3.30	5.36	4.00	6.78	5.00	10.63	10.00	1583
1238	3.97	3.70	9.60	7.00	10.05	8.00	7.26	7.00	1238
1215	1.79	1.23	8.26	6.50	9.31	8.00	3.66	3.00	1215
1592	1.07	.82	8.00	7.00	9.71	8.00	1.16	1.00	1592
1234	1.23	1.15	8.91	8.00	11.35	10.00	2.25	2.00	1234
1548	2.55	2.05	8.64	8.00	12.68	10.00	2.09	1.00	1548
1597	2.06	2.00	10.44	9.00	11.68	11.00	4.12	3.00	1597
1577	1.74	1.50	8.91	5.00	10.50	10.00	2.41	1.00	1577
1620	2.57	2.00	11.16	9.50	13.01	11.00	2.77	2.00	1620
1566	2.58	2.47	8.17	8.00	10.50	9.00	1.74	2.00	1566
1567	2.11	2.06	7.99	8.00	9.95	9.00	8.05	6.00	1567
1608	1.63	.82	9.19	7.00	11.02	9.00	2.00	1.00	1608
1595	2.07	2.06	10.04	8.00	11.28	9.00	3.53	3.00	1595
1596	1.07	.82	7.93	6.00	9.68	7.00	1.13	1.00	1596
1409	3.63	3.50	.....	.....	18.01	18.00	.....	.....	1409

DESCRIPTIVE LIST OF MANUFACTURERS' SAMPLES, 1897.

Station Number.	Brand.	Manufacturer or Dealer.	Place of Business.
1589	Quinnipiac Climax Phosphate....	The Quinnipiac Co.	Boston, Mass.
1590	" Corn Manure	" " "	" "
1243	" Market Garden Manure	" " "	" "
1244	" Phosphate	" " "	" "
1245	" Potato Manure	" " "	" "
1591	" Potato Phosphate.....	" " "	" "
1246	" Seeding Down Manure	" " "	" "
1585	Read's Cereal Special	Dwight H. Foster	Syracuse, N.Y.
1396	" Practical Potato Special ..	" " "	" "
1397	" Standard.....	" " "	" "
1587	" Sure Catch.....	" " "	" "
1236	Royal Bone Phosphate	Williams & Clark Fert. Co.	Cartaret, N.J.
1615	Sagadahoc Special Potato	Sagadahoc Fertilizer Co..	Bowdoinham.
1241	" Superphosphate	" " "	" "
1550	Sea Fowl Guano	Bradley Fertilizer Co....	Boston, Mass.
1235	Soluble Pacific Guano.....	Pacific Guano Co.	" "
1604	Special for Potatoes and Tobacco.	" " "	" "
1414	Standard A. Brand.....	Standard Fertilizer Co...	" "
1222	" Complete Manure.....	" " "	" "
1223	" Fertilizer	" " "	" "
1221	" Guano	" " "	" "
1603	" Potato & Tobacco Fert..	" " "	" "
1580	Stockbridge Corn & Grain Manure	Bowker Fertilizer Co....	" "
1388	" Potato & Veg. Manure.	" " "	" "
1391	" Seeding Down Manure	" " "	" "
1392	" Top Dressing Mauure.	" " "	" "
1616	Tankage	Portland Rendering Co...	Portland, Me.
1586	Vegetable and Vine	Dwight H. Foster.....	Syracuse, N.Y.

ANALYSES OF MANUFACTURERS' SAMPLES, 1897.

Station Number.	Nitrogen.		Phosphoric Acid.				Potash.		Station Number.
	Found.	Guaranteed.	Available Found.	Available Guaranteed.	Total Found.	Total Guaranteed.	Found.	Guaranteed.	
1589	1.28	1.03	8.63	8.00	11.27	9.00	2.54	2.00	1589
1590	2.22	2.06	10.39	9.00	11.68	10.00	2.27	1.50	1590
1243	3.89	3.30	9.43	8.00	10.08	9.00	7.47	7.00	1243
1244	2.74	2.47	9.38	9.00	10.49	10.00	2.72	2.00	1244
1245	2.71	2.47	7.67	6.00	9.93	7.00	5.80	5.00	1245
1591	2.15	2.05	10.42	8.00	11.32	9.00	3.66	3.00	1591
1246	1.23	.82	9.46	9.00	11.72	10.00	2.26	2.00	1246
1585	2.00	1.60	6.09	6.00	7.18	7.00	4.43	4.00	1585
1396	1.20	.82	4.94	4.00	5.48	5.00	8.35	8.00	1396
1397	1.15	.82	8.23	8.00	9.15	9.00	4.33	4.00	1397
1587	.....	.....	9.52	6.00	11.08	7.00	5.06	4.00	1587
1236	1.26	1.03	9.31	7.00	11.54	8.00	2.26	2.00	1236
1615	2.15	2.15	9.51	7.00	10.22	9.25	8.77	8.00	1615
1241	2.22	2.50	9.24	8.00	10.84	10.00	4.53	4.50	1241
1550	2.90	2.06	9.41	8.00	12.35	10.00	1.73	1.50	1550
1235	2.37	2.25	9.75	8.50	11.60	10.50	2.61	2.00	1235
1604	2.65	2.06	11.01	8.00	12.07	9.00	4.10	3.00	1604
1414	1.33	.82	7.92	7.00	9.88	9.00	1.71	1.00	1414
1222	3.56	3.30	9.70	8.00	12.08	9.00	6.94	7.00	1222
1223	2.44	2.00	10.00	8.00	11.96	10.00	2.67	2.00	1223
1221	1.75	1.25	8.61	6.50	9.70	8.50	3.69	3.00	1221
1603	2.43	2.05	10.98	8.00	12.01	9.00	3.78	3.00	1603
1580	3.33	3.00	8.63	8.00	10.54	10.00	6.55	6.00	1580
1388	3.43	3.25	5.25	6.00	9.49	7.00	9.76	10.00	1388
1391	2.62	2.50	7.89	6.00	12.09	12.00	10.27	10.00	1391
1392	5.09	5.00	5.78	4.00	9.48	6.00	5.87	6.00	1392
1616	4.27	4.12	7.34	5.00	19.40	18.00	.....	.....	1616
1586	1.96	1.60	6.86	6.00	7.83	7.00	8.21	8.00	1586

FERTILIZER MANUFACTURERS WHO HAVE COMPLIED WITH THE
LAW FOR THE YEAR 1897.

FIRM NAME.	PLACE OF BUSINESS.	NO. OF BRANDS.
Hiram Blanchard.....	Eastport	2
Bradley Fertilizer Co.....	Boston, Mass.	9
Bowker Fertilizer Co.....	" "	16
Clark's Cove Fertilizer Co.....	" "	6
Cleveland Dryer Co.....	Cleveland, Ohio.....	5
E. Frank Coe Co.....	New York City.....	11
Crocker Fertilizer & Chemical Co.....	Buffalo, N. Y.....	4
Cumberland Bone Phosphate Co.....	Boston, Mass.....	5
F. S. Farrar & Co.....	Bangor	2
Dwight H. Foster	Syracuse, N. Y.	7
Great Eastern Fertilizer Co	Rutland, Vt	5
Nash Manufacturing Co.....	Orrington	2
Samuel G. Otis.....	Hallowell	3
Pacific Guano Co	Boston, Mass.	4
Packer's Union Fertilizer Co	New York City.....	2
Portland Rendering Co	Portland	1
Quinnipiac Co	Boston, Mass.	8
Sagadahoc Fertilizer Co.....	Bowdoinham	2
Standard Fertilizer Co	Boston, Mass.....	5
Williams & Clark Fertilizer Co ..	Cartaret, N. J.....	7
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